SNOW SHOVEL

Owing to the difficulty of procuring wood large enough for its manufacture, the snow shovel, which measured on the average 3 feet long by 18 inches wide, ranked with the table among the most precious possessions of the household. Often a native, unable to obtain one plank of proper width, resorted to splicing, and lashed two boards, one broad and one narrow, side by side. The cracks that developed in nearly all shovels were kept from spreading by similar cross-lashings of rawhide, until the average tool had as many as six or eight "splices"

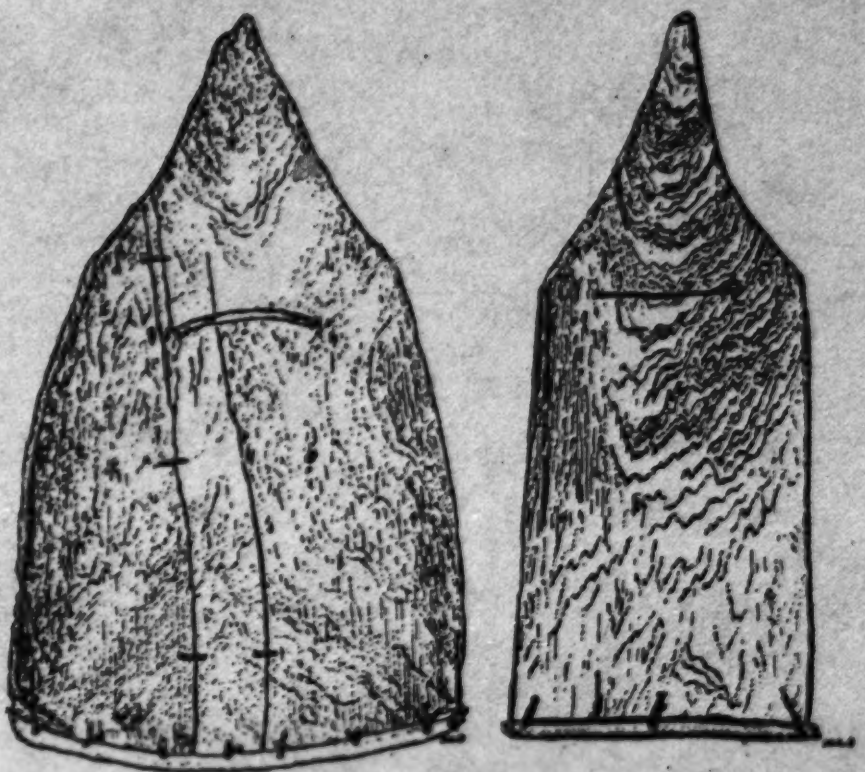

Figure 79. Snow shovels. IV.D.782, 1883. Approx. 1/8.

on its surface. At the bottom was an edging of bone (rarely ivory), securely lashed to the wood through a number of holes; and about the middle of the face was the handle, a half-hoop of antler pushed through two holes and pegged, or, more rarely, a strap of rawhide. Because this handle was liable to break through the wood, some natives strengthened the holes with bone gaskets. The general shape is illustrated in Figure 79.

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Figure 107. Man's knife, with copper blade. IV.D.1455. Approx. 1/4.

Knives. The oldest Copper Eskimo knives of which there is any record had large copper blades, lanceolate in form and sharp on both edges. Generally the blade had a tang, which was driven into an antler handle without being riveted, but occasionally there was no tang, the blade being set in a slot and secured with a single copper rivet. The handle was sometimes of two pieces, spliced together and riveted with copper or bone pegs, and the butt was a separate piece of bone, or sometimes musk-ox horn, pegged to the handle. A lashing of sealskin or willow root, which began through a hole in the butt and was wrapped around most of the handle, afforded a better grip than the smooth antler; its loose end passed through another hole and was tucked under one or more bights. A short loop of sealskin was often added in the side of the handle so that the knife could be hung on a button of the coat, or attached to a toggle on the bow-case (Figure 107).

An excellent specimen of such a knife, collected by Captain Collinson at Cambridge Bay in 1852, is now in the Pitt-Rivers Museum at Oxford, England. Another specimen, with a rather shorter blade, collected by Lieutenant Singleton, of H.M.S. *Fox*, from an unknown locality, is in the Horniman Museum, Forest Hill, London. Others, collected by either Collinson or his colleague McClure on Victoria Island, are deposited in the British Museum. These are the oldest specimens known to me from the Copper Eskimo region. Hanbury collected several similar knives in 1902 between Ogden Bay and Coppermine River, some of which are also in the British Museum.

Even in the nineteenth century a considerable amount of iron found its way into the Copper Eskimo country and was utilized for knives. Figure 108 shows a knife made from iron secured from McClure's ship, the *Investigator*, which was abandoned on Banks Island in 1851. The blades of these early iron knives correspond as nearly as possible to the copper ones; they were lanceolate, and hammered thin on both sides toward the edges. However, early in the twentieth century, European steel knives began to drift in from the south and southeast, and soon afterwards more knives and a quantity of iron entered the country from Great Bear Lake and from the west. The natives then removed the handles from the European knives and mounted them according to their own fashion; but often they left the shape of the blade intact. Accordingly, one found iron-bladed knives that had one or both edges sharp, or else half the back edge sharp and the other half blunt. These iron blades, also, were generally mounted in a slightly different manner from the old copper knives; their tangs were riveted between plates of iron that were riveted in turn to the antler handles.

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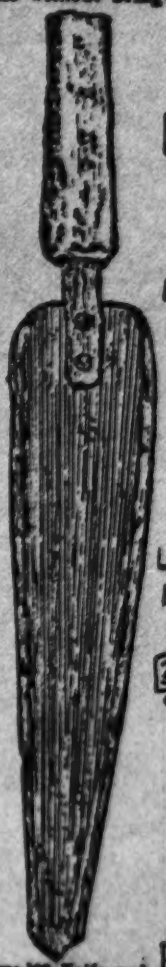

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Figure 108. Knife, made of iron from McClure's ship *Investigator*. IV.D.616. 1/2.

28: Jenness E-5 (1914-1916) 1946
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By the twentieth century almost every adze was equipped with a blade of iron; only a few retained blades of copper, which were mounted on antler, not wooden, handles, and applied in the ordinary way, not "like a chisel, driven in with a heavy club". Sometimes the blade was lashed directly to the handle, sometimes wedged into a separate head of bone, antler, or musk-ox horn. Examples of both methods are shown in Figure 119.

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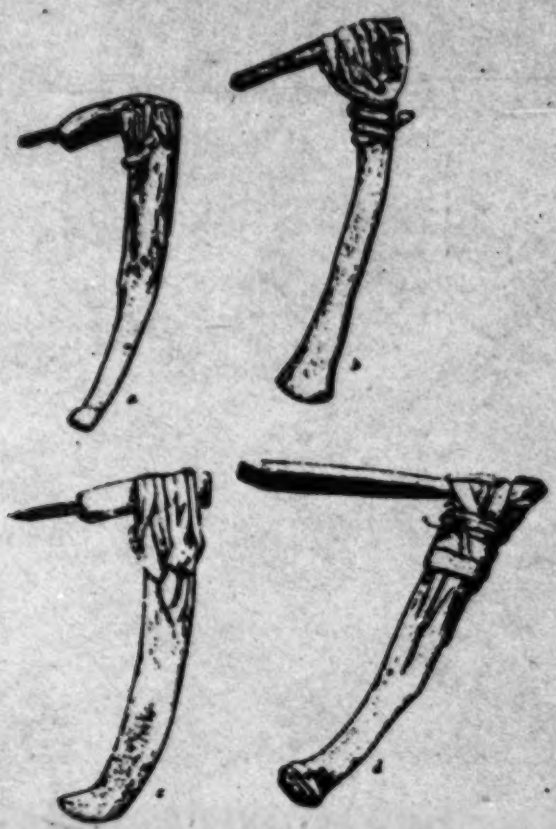

Figure 119. Adzes. *b*, with copper blade; *a*, *c*, *d*, with iron blades. IV.D.1638, 1678, 1675, 1639. 1/4.

Figure 119*b* is an old specimen from Coronation Gulf that has a copper blade lashed with a thong of sealskin directly to the antler handle, the top of which is hollowed to a V-shaped groove to prevent the blade from slipping over the side. The end of the blade was originally wrapped in sealskin to protect the lashing, but the sealskin has worn away on the sharp edges, though it still remains on top and bottom. The handle has four holes for the lashings.

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Figure 119*d* shows a similar specimen with a heavy steel chisel for a blade. Here, both the upper and lower surfaces of the lashing have been protected with sealskin, and the antler handle has only one large hole.

Figure 119*a* has a steel blade (part of a file) driven into a head of musk-ox horn; the end was wrapped in sealskin to wedge it securely in the socket. Five holes are drilled in the horn head, two in the handle to receive the lashing, which, as always, is of sealskin.

Figure 119*c*, which also has a steel blade, is mounted in a bone head without wedging. The head is not drilled for the lashing, but has a wide groove that answers the same purpose. The antler handle has only one large hole.

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Mattocks. Mattocks or picks of heavy bone or antler, mounted on handles like adzes, occur only as relics of the earlier whale-hunting population. Numerous specimens were noted in the ruins at Cape Kellett, on Banks Island, and one of whale rib, much weathered, was found without its handle near Forsyth Bay on Victoria Island (Figure 120). The local natives guessed its purpose correctly, though they had never seen one in use. In pattern it is identical with the mattocks I dug up at Barter Island, in northern Alaska, and with specimens from the "Thule" culture remains in Hudson Bay region.

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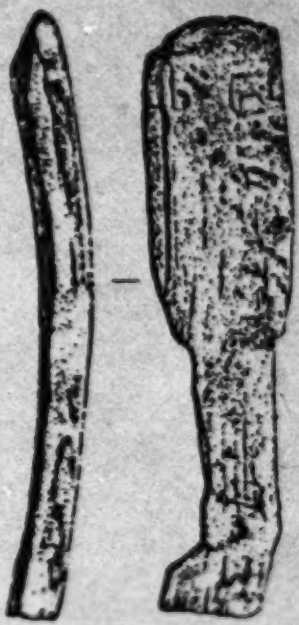

Figure 120. Old mattock of whale rib, found on Victoria Island. IV.D.227. 1/2.

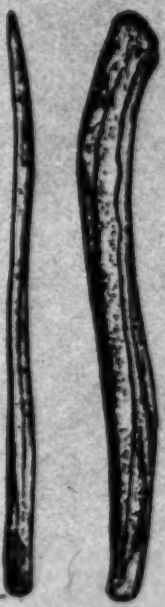

Figure 121. Mattock or pick of antler, IV.D.228. 1/4.

The typical mattock of the Copper Eskimo was simply an unmounted caribou antler with sharpened point, butt crudely shaped to give a grip, and, rarely, a projecting foot as on the handle of the man's knife (Figure 121). Any large antler, curved or straight, served the purpose, and some specimens were

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322 especially the lower arm of the front notch, which carried the weight of the line; consequently, this notch was often built up by splicing a short projecting piece of wood to the under side of the rod. Sometimes a bone pin was inserted about the middle of the rod, on its upper surface, for shortening the line a little; for in shallow lakes the line was lowered until it touched the bottom, then raised a few inches with a turn around this pin, and fastened with a half hitch to the lower arm of the front notch.

227 The second type of fishing rod was simply a straight stick also notched at each end. Usually it was a little longer than the curved variety and was especially favoured for cod fishing, though no great distinction was made between the two kinds.

Both types of rod, with all their attachments, are shown in Figures 125 and 126.

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Figure 123. Snow sounder. IV.D.1084. 1/4.

Figure 124. Snow sounder with unusual handle of musk-ox horn. IV.D.119. 1/6.

Capt J. Bernard discovered an ancient rod of antler (Figure 127) in an old stone house on Bell Island, off the southwest coast of Victoria Island. It closely resembles Copper Eskimo specimens, though the house itself must date from the earlier Thule culture. I do not know the purpose of the holes drilled in each end.

The common line for these rods was a stout 3-ply cord, plaited from caribou leg sinew. It varied greatly in length, but generally ran from 35 to 60 feet. The upper end was fastened in different ways, sometimes with a few half hitches around the front of the rod, sometimes by a knot at the back end; the lower end was attached to the sinker, not to the hook, because the sinker and hook were riveted together.

For tomcod fishing in winter the western Copper Eskimo preferred a line of baleen to a sinew line, because the latter became encrusted with ice and was easily broken. These baleen lines, which could be quite short, were naturally commonest around Dolphin and Union Strait; natives farther east, who seldom or never saw a stranded whale, obtained them only by trade.

The sinkers were of bone, antler, or musk-ox horn, most often the first two. There were two types, one for use with a comparatively small hook when fishing in the lakes for trout and salmon, the other for use with a very much longer hook for catching cod.

The former type of sinker was usually from 1 to 2 inches long, oval in outline, flat on one face and rounded on the other. Most of them had two holes drilled through the upper end, one below the other. The end of the line then passed twice through both holes, forming a double-stranded noose, and was plaited back an inch or two from the sinker, where it was bound occasionally

with fine willow bark; many a careless fisherman, however, instead of splicing it, simply fastened it down by two or three half hitches. The same method of fastening the line was adopted when the sinker had only one hole.

The bottom of the sinker was nearly always grooved to fit the end of the hook; and often a small hole was drilled beside this groove to tie on the bait. The hook was originally of copper, but by 1914 most of the natives were using an iron hook beaten out in the same manner as the old copper one (Figure 128). Generally, it was flattened at the upper end and riveted, but occasionally it passed through a hole in the sinker and was pegged to its back (Figure 129). Iron hooks were often driven directly into the bottom of the sinker without riveting. There was never any barb, and the hook seemed extraordinarily large for the size of the fish; but it was never intended to be swallowed, as the fish was jagged in the mouth as soon as it nibbled at the bait.

The bait was usually a strip of skin and flesh from the belly of the fish, or sometimes its œsophagus. After being pushed onto the hook it was lashed to the sinker with a thread of sinew.

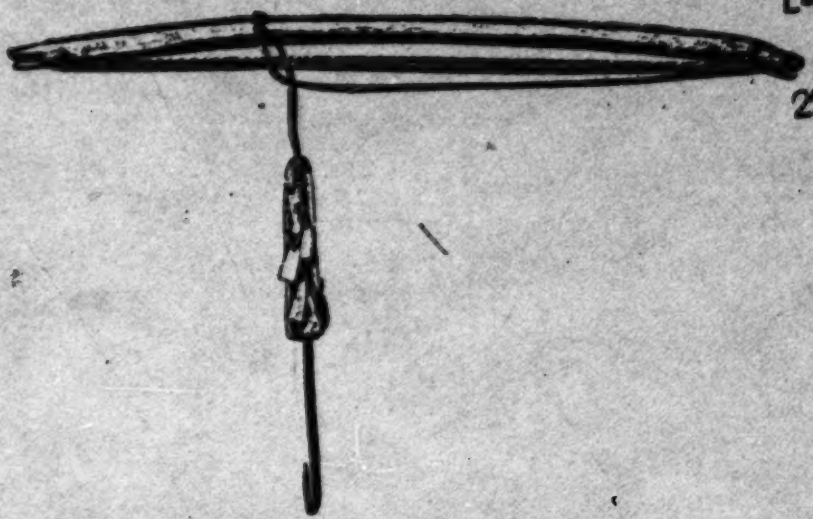

Figure 128. Wood fishing rod and line. IV.D.187. 1/4.

The sinker for cod was made from the same materials as the sinker used in lake fishing, but was generally much longer. The hook was also much longer, varying from 5 to 9 inches; but both it and the line were attached in the same manner. As no bait was used, there was no small hole at the bottom for its attachment; but three or four lures of bone or teeth, sometimes neatly shaped, were fastened at intervals to the under surface of the sinker by means of holes and sinew lashings (See Figure 125). Some common forms of these lures are shown in Figure 130. Often the natives dispensed with a hook altogether and used spears and a larger lure, made from a bear's tooth strung with smaller teeth or with gleaming fragments of bone that fluttered like fins in the water (Figure 131). Indeed, they caught more seals with their spears

[TEXT CONTINUED ON PAGE 110]

one needle, 8 inches long, the splinter was mounted in a wooden handle. The line was of sealskin, generally closed at the far end with a stick of bone, antler, or wood to prevent the fish from slipping off. 227 237 [283]

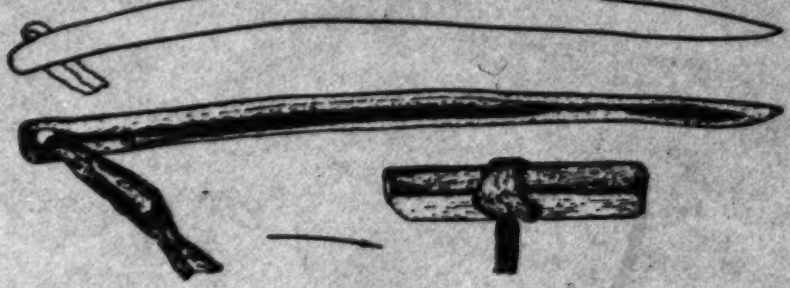

Figure 133. Bone needle for stringing fish. IV.D.461. Approx. 2/3.

Fish Bags. To pack their fish to camp the Eskimo used a bag of sealskin, commonly made by folding in the ends of a whole skin, doubling it over and tying a line to each end. The same bag, laced across, served as a dog-pack. 222 415 287 [492]

Fish Spears. Two varieties of fish spear were employed, the trident and the leister. The leister was preferred for spearing trout and salmon in lakes when they came to nibble at the lure, the trident for the migrating salmon that entered the weirs across streams; but generally a man used whichever weapon happened to be nearest at hand.

The shape of the leister is best seen from the illustration (Figure 134a). The handle was simply a long pole, split at the end to receive a barbed, occasionally barbless, point of antler, which was held in place with a lashing of sealskin, or more rarely of sinew. Two prongs facing each other, which sprang open on striking the fish, were invariably of copper or iron, copper, of course, being the original material; they were driven like nails into antler heads, which were bevelled off at the lower ends to fit corresponding ends on wooden extensions. Antler and wood were spliced with sealskin lashing, strengthened at times by bone or antler nails. The wooden extensions were then bevelled off in the same manner and lashed to the shaft, but not nailed, as low ridges at their tips prevented the lashings from slipping off. All these lashings quickly dried up from disuse, and the parts fell asunder except where they were held together by pegs. In a few leisters the side pieces were entirely of antler, not of antler and wood combined. 227 284 321 [325]

The trident (Figure 134b) resembled the leister, but had no prongs on the side pieces, which were made entirely of antler, pointed and barbed like the point in the middle. The number of barbs varied; in some cases they were directly opposite, in others staggered, both arrangements occurring at times on the same weapon. 227

Double-pointed spears were sometimes improvised for stabbing sculpins, or the small fish that hide under the stones on the margins of lakes. I have seen two sharpened pieces of bone, and even a European fork, lashed to the end of a walking-stick for this purpose. Naturally, they were dismantled again as soon as the need for them passed. [136] [177]

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227 *Fish Rakes.* The fish rake was employed at the foot of a few cascades where the salmon congregated in such numbers that no art was required for their capture.

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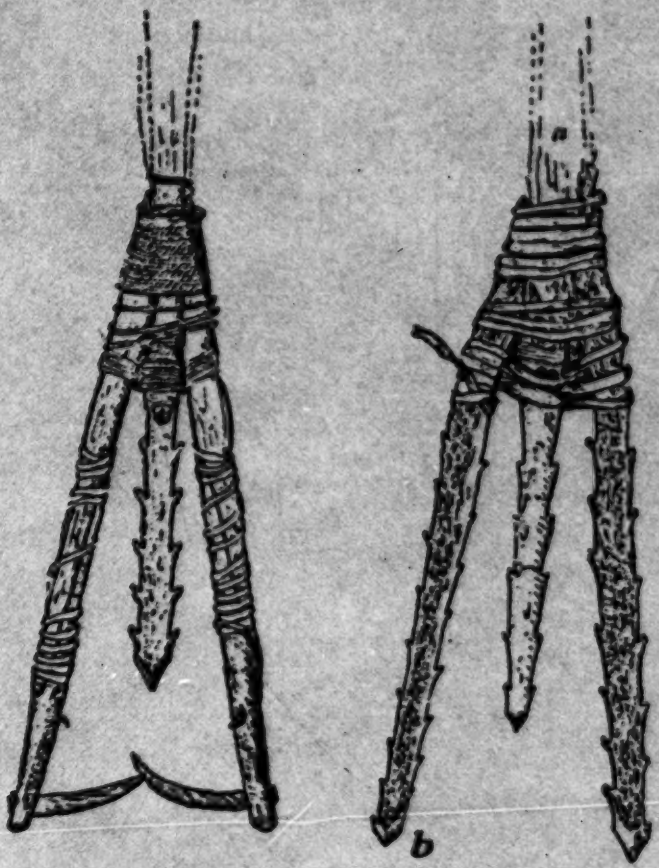

Figure 136. a, leister, IV.D.117; b, trident, IV.D.121. 1/3.

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227 Hearne, the first traveller to observe it, described its use as follows:

"The salmon at Bloody Fall, on the Coppermine river, were so numerous that when a light pole armed with a few spikes, which was the instrument the old woman used, was put under water and hauled up with a jerk, it was scarcely possible to miss them. Some of my Indians tried the method, for curiosity, with the old woman's staff, and seldom got less than two at a jerk, sometimes three or four."[1]

[1] Hearne op. cit., p. 102.

412 antler, trimmed in front like a collar, and whittled down at an angle behind to
321 fit a long wooden handle. In this specimen the handle was attached by two bone pegs (which are still in position), supplemented by a sealskin lashing. In other specimens, especially the smaller ones, there was only one peg, and occasionally none at all, if the owner wished to use the same handle on his ice scoop or other implements. Apart from the number of pegs there was little or no variation in shape.

412 For several years after iron became readily available some of the Eskimo
325 still preferred their old copper ice chisels, because in shallow lakes the edge was often dulled through striking against the stones on the bottom, and copper was easier to hammer and grind into shape again than iron. The Copper Eskimo
[321] had no recollection of bone or ivory ice chisels, though their harpoon carried a pointed butt of bone or antler for planting the weapon upright in the snow.

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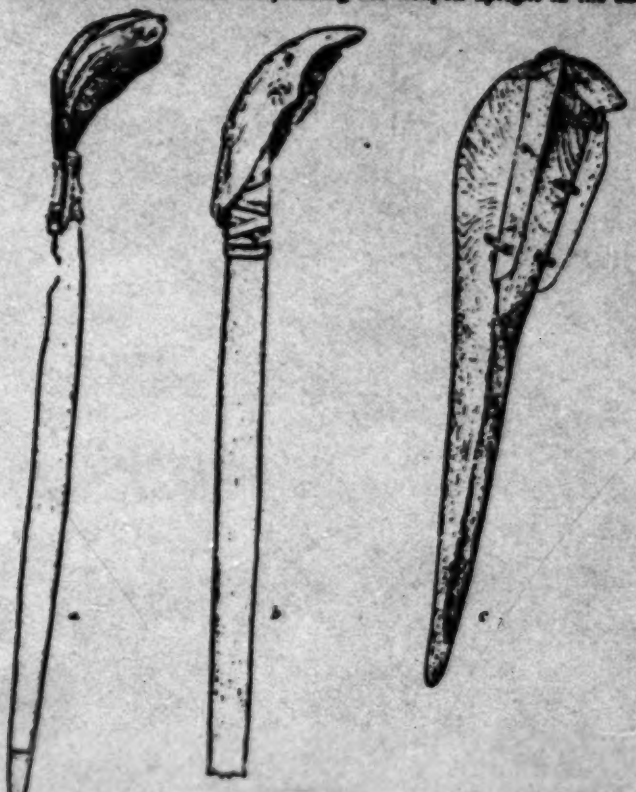

Figure 138. Ice scoops; a: of musk-ox horn; b: of bone; c: of wood edged with bone. IV.D.138, 179, 224. Approx. 2/10.

412 *Ice Scoops.* A common shape for the scoop used in clearing out the hole
321 made by the ice chisel is illustrated in *Figure 138c*, which shows a wooden ladle
322 with a "free-board" of bone attached by thongs of both sinew and sealskin
284 around the rim of the bowl. Some of the holes not filled with the lashing have been plugged with wood.

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Because many natives experienced difficulty in obtaining a piece of wood large enough to carve into a bowl, they often substituted a curved piece of bone or of musk-ox horn, lashed to a wooden handle. Specimens of these more or less makeshift scoops are illustrated in Figure 138, where a (IV.D.135) has a bowl of musk-ox horn, and b (IV.D.179) of bone. The handles of such scoops could be lengthened, if necessary, by lashing to the walking-stick or fish spear, for which purpose their owners often cut notches at the ends.

SEALING EQUIPMENT

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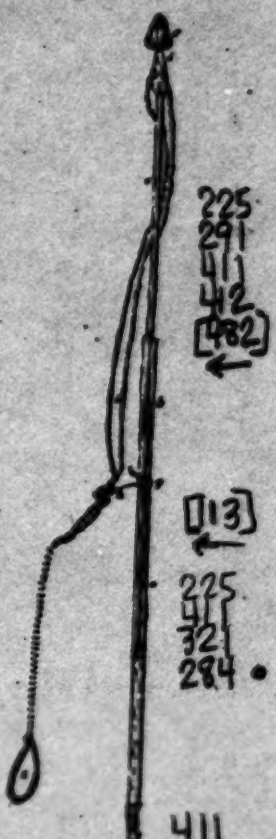
In the spring and autumn, when the seals were basking on the surface of the ice, Copper Eskimo hunters occasionally tried to crawl near enough to transfix them with their harpoons; but so slight were their chances of getting within range—unless perhaps in rough ice where there were sheltering hummocks—that most men never attempted the feat until they obtained rifles, which extended the effective distance for attack from 8 or 10 yards to 100 yards. Every man, on the other hand, and even some of the younger women, regularly tracked down the seals' breathing holes in the ice during the winter months and harpooned the animals when they rose to the surface. In midwinter, when the days were short, they started out for their hunting grounds half an hour before dawn, and did not return home until after dark. Their outfit was fairly standardised, though not always complete. Each man wore a long outer coat of thick caribou fur to protect his body from the cold. Sewn to the back of this coat was a bone button (*See* Figure 37) for the attachment of various tools, viz., a scoop to clear away the snow, bone skewers for closing the wounds in the seals, a toggle to drag them home, a spare harpoon head, and sometimes a foot-pad to protect the hunter's feet as he waited motionless, 1, 2, or even 3 hours, over the breathing hole. In his hand he carried his harpoon, the usual long, two-edged knife, and an "indicator" to warn him when a seal was rising to breathe; and from one wrist hung a special toggle that he attached to the trace of his dog. His method of hunting is described in "Life of the Copper Eskimos", Reports of the Canadian Arctic Expedition, vol. XII, pt. A, pages 112-114; here we need consider only the details of his tools and weapons.



Harpoons. The harpoon was roughly the height of a man, or from 5 feet 6 inches to 6 feet long; and it varied only in minor details (Figure 139). It contained essentially four parts—a shaft, usually of wood, but occasionally of two or more pieces of antler riveted and lashed together; a bone or antler (very rarely, copper) foreshaft that fitted into a hollow bone cap at the end of the shaft; a detachable head with a long hand line of plaited sinew;

Figure 138. Sealing harpoon. *a*: wooden shaft; *b*: bone socket-piece riveted to the shaft with copper nails; *c*: antler foreshaft; *d*: antler head; *e*: copper blade; *f*: antler butt; *g, h*: sinew from hand line looked under the thong that runs along the shaft, the thong itself being held down at this point with a copper staple; *i*: hand line of braided sinew; *k*: grip of hand line. IV.D.694. 1/10.

and a pointed bone or antler butt for planting the weapon upright in the snow. The butt was merely lashed to the end of the shaft with rawhide or sinew whipping; but the bone cap at the other end was riveted with bone or copper pins through two spurs that projected down the sides of the shaft, and the tapering end of the foreshaft was firmly wedged into its hollow by a packing of skin or fur. Through a hole drilled in the shaft just below the cap passed a sealskin thong that ran tautly one-third, one-half, or three-quarters the length of the shaft and was then knotted through another hole; it served, in conjunction with a piece of sinew attached to the hand line, to hold the harpoon head against the foreshaft. At the place where the sinew tucked under it, some hunters lashed the thong tightly against the shaft with a whipping of rawhide, or held it down with a copper "staple".

All the Copper Eskimo harpoon heads I have seen had blades separate from the head, although specimens of the old Thule culture, in this area as elsewhere, sometimes have the blade and head in one piece. The older Copper Eskimo harpoon heads were made of bone or antler, and the bone or copper blade, shaped exactly like an arrow point, was invariably set horizontally in the same plane as the line holes, and secured with a single rivet of bone or copper. The butt of the head was cut aslant, giving a single sharp spur, and a circular hole was drilled for the insertion of the foreshaft. Three of these old harpoon heads are illustrated in Figure 140.

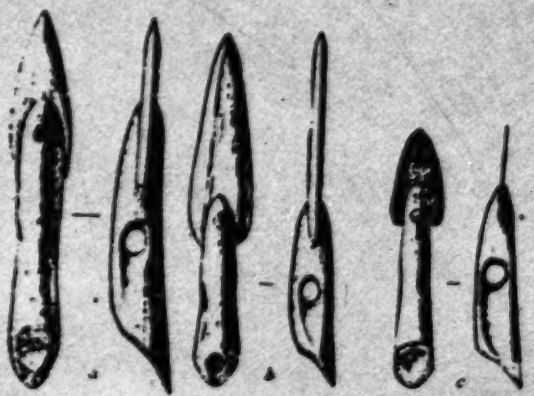


Figure 140. Old harpoon heads. a, b: bone blades; c: copper blade. IV. D. 1828, 600, 1628. 1/2.

The introduction of iron did not change the type of the Copper Eskimo harpoon head, but only its material. At first only the blades were of iron; the heads proper continued to be made from bone and antler. By 1914, however, nearly all heads had come to be of iron, or occasionally of brass, and what seems to have been a new feature was introduced, a lengthening and bifurcation of the butt, resulting in two, stout, chisel-edged spurs, which were themselves often notched (Figure 141). This change we must probably ascribe to influences from Hudson Bay, where the spur of the ordinary sealing harpoon head has been bifurcated for several centuries. Among the Copper Eskimo every metal harpoon head that came under my notice possessed this feature, but not a single bone or antler one, except the specimen that will now be discussed.

Figure 142 shows a harpoon head without separate blade that was included in a large collection of specimens brought back by Mr. Stefánsson and labelled Minto Inlet, Victoria Island. If it actually came from that district, it must

surely have been unearthed in some old ruin of pre-Copper Eskimo times, for it is identical with specimens that have been dug up in old dwellings in both Mackenzie Delta and northern Alaska. I rather suspect, however, that it came from one of these western areas, as did several other specimens in the collection that were certainly wrongly labelled.

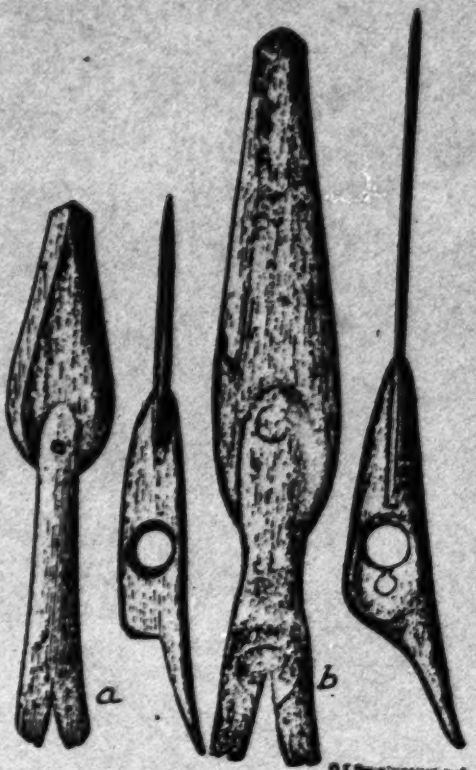


Figure 141. Modern harpoon heads with iron blades. *a*, IV.D.213, 1/1; *b*, IV.D.1054, 3/2.

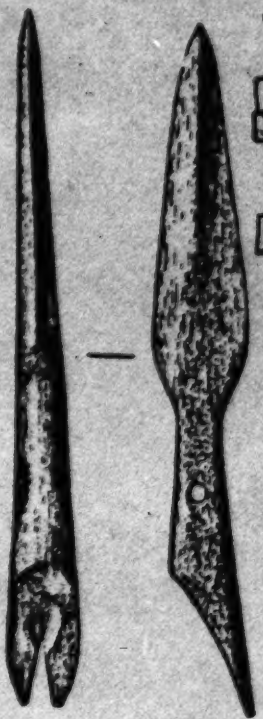


Figure 142. Bone harpoon head. IV.D.1334. 1/1.

The line attached to the head of the harpoon averaged in length a little over 2 metres and was made of plaited sinew, of sealskin, or of both combined, some hunters preferring sinew for the grip, but, for the toggle end, a sealskin thong less liable to fray. All lines were double from the toggle nearly to the grip; and to one or both strands, about 3 feet from the toggle end, was tied a short piece of sinew, which tucked under the thong running along the side of the shaft and held the lower part of the line taut until the seal was struck, when it immediately slipped out of place.

When the line was of plaited sinew it was graded from an 8- or 16-ply weave down to a 4 or 6 ply. At times this was accomplished by twisting some of the strands together, a 12-ply line, for example, being combined in twos to make one of 6 ply, and this perhaps again to 4 ply; the two ends could be

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spliced, or fastened to a sealskin thong. More often, perhaps, there was a simple tapering of the line, the narrow end, after passing through the toggle, being

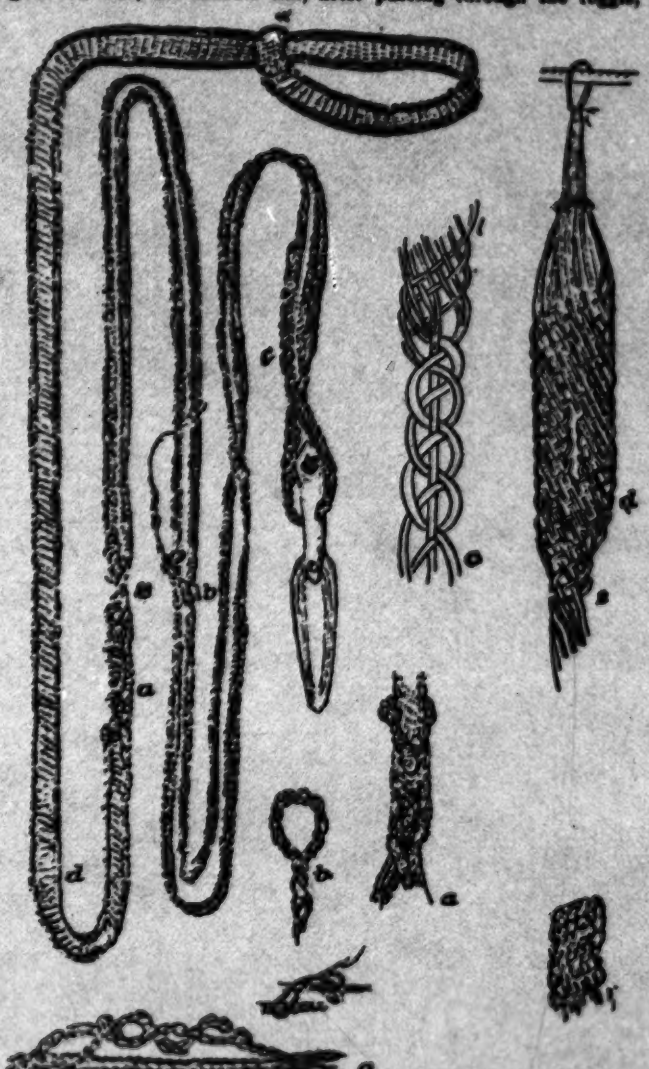

Figure 143. Details of a harpoon line made from plaited sinew. IV.D.269. 1/2.

joined back in various ways, occasionally by a simple knot. At the thick end, which the hunter held in his hand, was a running noose. The accompanying illustrations explain more clearly the details of construction (Figure 143).

Scoops. The scoop (*ilaun*) (Figure 144) used for clearing the snow from the breathing hole of the seal had an average length of 1½ feet, and was made of musk-ox horn, mounted on a handle of horn, bone, antler, or wood. The two parts were generally spliced with a V-shaped notch, rarely by bevelling the ends and overlapping; pegs of copper or bone, and lashings of sealskin or sinew, held them firmly together. A small loop enabled the tool to be attached to the coat button; usually it passed through two holes in the handle and the ends were either tucked under the lashings around the splice or knotted. The handle tapered to a rounded point with which the hunter stabbed the eye of the seal when it was drawn to the surface.

Figure 144. Scoop for sealing, of musk-ox horn. IV.D. 123. Approx. 1/4.

Indicators. The seal indicator and its use have been described in Reports of the Canadian Arctic Expedition, vol. XII, pt. A, page 113. Figure 145 illustrates the commoner type, the pencil of bone slightly more than a foot long, with the small bone disk at the bottom and the cord leading away to the needle that was pegged into the snow. Often, but not always, the top of the pencil, perforated for the cord, was made of a separate piece of musk-ox horn, neatly drilled, that fitted like a cap. During our residence in their territory a few natives experimented with indicators made, not from bone, but from the steel springs of some old rifle bolts; how effective they were I cannot say.

For drawing up this indicator a few sealers used a fine hook of copper lashed with sinew to a short bone handle; a specimen is shown in Figure 146.

Figure 145. Seal indicator. IV.D.1318. 1/2.

Figure 146. Hook for withdrawing indicator from seal-hole. IV.D.484. Approx. 1/2.

Report of the Canadian Arctic Expedition, vol. XII, page 113, describes also a less common "indicator" made from a strip of caribou leg sinew that was slit to hold a wisp of bird's down. Unfortunately I failed to collect a specimen of this object.

Foot-pad. In midwinter many sealers carried a small square pad of caribou fur, or preferably of polar bear fur, to place under their feet when watching over the seal holes. Like the wound pins and the scoop, it hung from the button at the back of the coat, whereas the knife and the seal indicator were usually carried in the hand with the harpoon.

225 415 412 All sealers carried these bone skewers stuck in a strip of skin, but not all of them burdened themselves with a bag and a spare harpoon. Lacking the bag, they merely cut a hole in the strip of skin for slipping it over the coat button.

225 231 412 *Toggle for Leading Dog.* Figure 149 illustrates the usual toggle for leading a dog to the sealing ground. In principle it is the same as the toggle on the harness. The rigid parts are of bone, antler, or musk-ox horn; the cord and strap, of sealskin or caribou leg sinew. The broad loop hung over the sealer's wrist, and the small toggle buttoned into the loop at the end of the dog trace. There was no variation except in size, and no ornamentation.

225 412 [321] [283] [492] [531] *Toggles for Hauling Seals.* Toggles for hauling seals were indistinguishable from women's belt toggles (*See* page 50). Like most of the latter they were made of bone, antler, or musk-ox horn, nearly always the first, measured between 2½ and 4 inches from tip to tip, and had the shape of a crescent that tapered towards each end. Two ends of a short cord of sealskin, or more usually of plaited sinew, were passed through the hole and knotted to form a loop (Figure 150). The sealer threaded the toggle through a hole in the seal's mouth, passed it back through the loop and attached it to the trace of his dog, which then dragged the carcass home.

Sealing toggles, like other bone implements, were often ornamented with incised lines. These will be discussed in another place.

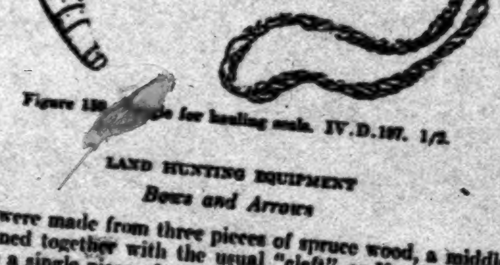

Figure 150. Toggle for hauling seals. IV.D.197. 1/2.

LAND HUNTING EQUIPMENT

Bows and Arrows

411 321 322 284 Most bows were made from three pieces of spruce wood, a middle piece and two "horns," joined together with the usual "cleft" or V splice (Figure 151*b*). Bows made from a single piece of wood were comparatively rare (Figure 151*a*), though one, owned by a 6-foot Tree River native, was stronger than any of the three-piece weapons. From the eastern end of Coronation Gulf came a few bows built up from musk-ox horn, caribou antler, or both materials combined (Figure 152), indicating a dearth of suitable wood in that region. In one of them, two pieces of musk-ox horn have been joined with a cleft splice, but elsewhere in this bow, and in all other bows of horn or antler, the makers have used the less difficult scarfed splice, and strengthened it in places with copper or iron rivets. A few wooden bows have scarfed joints also, but they are mostly small weapons for women and children.

411 284 239 [283] Because dry spruce has little tensility and easily fractures, every bow was strengthened with a score or more strands of braided sinew[1] that extended along the whole back and passed around the nocks (Figure 151). Some hunters

[1] One bow, a small one for a woman or child, has thongs of rawhide, presumably from want of sinew.

combined them into two or three cables, or wound a sinew or rawhide cord around them to keep them from slipping over the edge. Strips of sealskin beneath them checked fraying, and lashings of sinew or of rawhide at the grip and joints held them firmly against the wood. Over each of the two weak places

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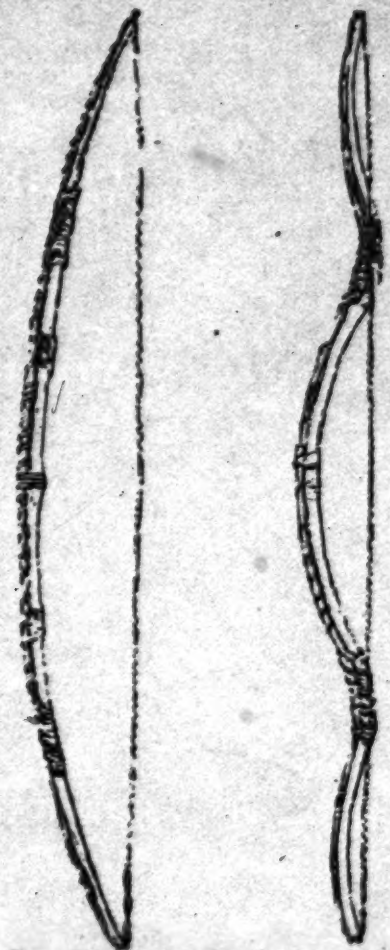

Figure 151. Two bows, one made from a single piece of wood, the other from three pieces. IV.D.72, 1278. 1/8.

Figure 152. Bow made from musk-ox horn and antler. IV.D.1789. Approx. 1/8.

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[322]

in the bow, the joints, most hunters lashed a plate of wood, bone, or antler, and some added another plate on the under side (Figure 153). As many bows were of inferior wood that required strengthening in various places, the lashings and splices on one weapon seldom corresponded exactly with those on any other. The main strength of all of them, however, lay in the back lashings, which were

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secured to the wood by a complicated series of half hitches, well illustrated by Murdoch.[1] As these back lashings slackened with frequent tension and changing weather conditions, the owner wedged little plaques of wood, skin, or bone

[321]

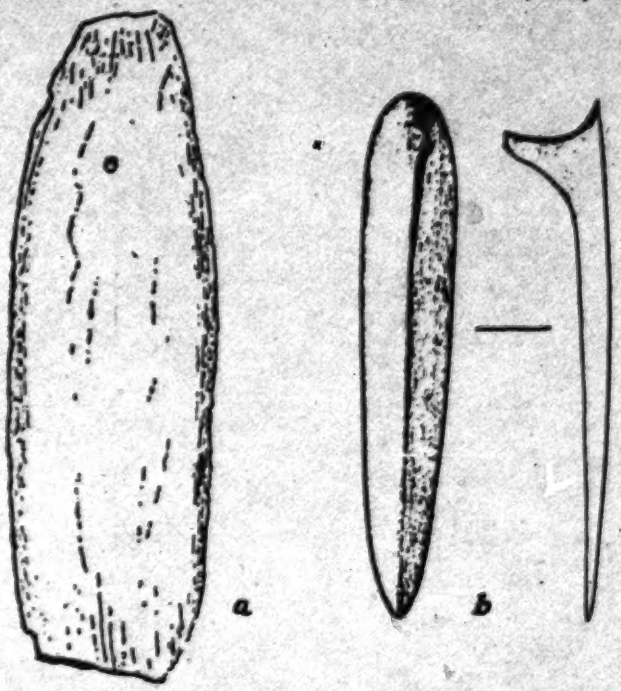

Figure 133. Braces to strengthen the joints of a bow. a: musk-ox horn; b: bone. IV.D.708, 602. 1/1.

beneath them (Figure 134), and when plaques no longer sufficed, he removed the lashings altogether and rewound them, an operation that he could perform in about an hour. Defects in the horns were more serious, but not insuperable. I [461] have seen a native strip a bow down to the bare wood, fit it with two new horns, and relash the weapon ready for use in the space of 4 hours.

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Figure 134. Plaque of rawhide, wedged under the back lashings of the bow. IV.D.79. 1/1.

The bowstring was made from five or six strands of sinew, twisted together. When stringing his weapon, the hunter sat on the ground and pushed the middle of the bow from him with his foot while pulling the horn towards him.

When the party of Indians with whom Hearne travelled in 1771 massacred some Copper Eskimo at Bloody Fall, near the mouth of Coppermine River, Hearne noticed that most of the Eskimo arrow heads bore triangular points of a slate-like stone, whereas the remainder had points of copper.[2] The Copper Eskimo we encountered were using only points of antler, bone, copper, or iron.

[13]

[1] Murdoch, John: A Study of Eskimo Bows, in the U.S. National Museum Report of the U.S. Nat. Mus., 1888, pp. [illegible].

[2] Hearne: op. cit., p. 100.

small birds, principally ptarmigan; hence these toggles were called *aqargiqiutit:* "ptarmigan appliances" (Figure 161).

A bone or musk-ox horn handle (*neruminiutaq*), fitted with a short strap of plaited sinew (Figure 162), was sometimes kept in the tool bag, but more often looped through some hole on the outside of the quiver or bow-case, or attached in some other way. Usually about 10 cm. long, of standardized shape, it was often grooved to fit the fingers in the same way as the blubber pounder and the whittling knife. This handle served on occasion to carry any small bundle, but was principally used for carrying the head of the caribou, or the bag containing its blood. From the latter use it acquired a second name, *auqtun* or "blood carrier".

Figure 160. Toggles sewn to bow-case. *a* for attaching the carrying strap, *b* for attaching the quiver. IV.D.1053, 91. 1/1.

The tool bag was often closed by lacing, for which purpose one end of a short cord of sinew was attached to the edge of the bag, and the other end to a small bone needle with which it could be threaded through the holes. When completely furnished, it contained the following articles.

Two marline-spikes for the bow lashings; two twisters for the bow lashings; one or more spare wedges to go under the lashings; feathers for the arrows, kept usually in a small bag of marmot or other skin; a small board for trimming the feathers; a grooving tool for attaching the feathers; a little caribou back sinew for lashing the feathers, splicing the arrows, sewing rents in clothing, etc.; spare parts of arrows for repairs; bone skewers for the carcasses of game; bone pins for the bag that contained the caribou blood; a wrist guard; a drinking tube; a needle-case and needle; a mattock for making a hunting pit (if too large for the tool bag this was carried in the quiver or even in the bow-case); an arrow straightener.

Very few tool bags, however, contained all these articles. The natives nearly always hunted together, and the deficiencies of one bag could be supplied from another. On the other hand, the tool bag often contained other articles, such as the whittling knife and the graver for cutting bone, which were more usually stored in a special tool bag at home, with the adze and the bow-drill. The bow adjuster, being large and cumbersome, was also left in camp.

Marline-spikes. Marline-spikes (Figure 163), which averaged from 6 inches to 10 inches long, were made of caribou or musk-ox bone. Some closely resembled marrow spatulæ and, at times, were actually used for extracting marrow, but their larger size, heavier construction, and the small hole below the handle instead of at the extreme end distinguished them from the ordinary spatulæ. This hole enabled them to be lashed in pairs, because two were required to unfasten and tighten the back lashings of the bow. One cord often fastened together the two marline-spikes and the two twisters, which also went in pairs. The handles of marline-spikes were frequently grooved for the fingers on one edge, and sometimes on both. Ornamentation, however, was rare, and when it did occur, consisted merely of a few incised lines or the ring-and-dot pattern.

Figure 161. Bone toggle attached to either bow-case or quiver for pinning through ptarmigan wings. IV.D.1078. 1/1.

Twisters. The twisters (Figure 164) were much shorter than the marline-spikes to which they were usually attached, although they were made of the same material, and also used in pairs. All had the same unvarying shape, a flattened

[TEXT CONTINUED ON PAGE 131]

stick 4 inches or so in length turned up at the ends in contrary directions, and with a small hole in the middle to lash them together. No ornamentation was observed on any of these implements.

Wedges. Figure 184 shows a typical wedge, a flat square of wood, bone, or rawhide for inserting under the bark lashings of the bow. Some had holes through the middle so that they could be tied to the bow-case.

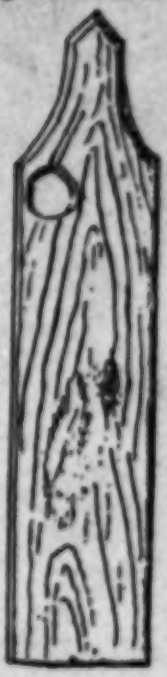

Figure 168. Wooden board for trimming arrow feathers. IV. D.148. 1/2.

Figure 166. Bone instrument for feathering arrows. IV.D.1888. 1/1.

Board for Trimming Feathers (Figure 168). Any flat piece of wood served for trimming the feathers. The board in the tool bag was usually from 4 inches to 5 inches long and from 1 inch to 2 inches wide.

Grooving Tool. The grooving tool for attaching the feathers to the end of the arrow shaft was generally the hollow wing bone of a large bird bevelled off at one end like a chisel (Figure 166). Hunters who lacked a proper grooving tool sometimes used the marline-spike.

Spare Parts of Arrows. These consisted of broken shafts and heads that could be used in mending; scraps of bone or antler, and pieces of copper, to be worked up later into arrow heads.

Bone Skewers. The Copper Eskimo hunter had two sets of bone skewers, one for pinning up the carcass of the caribou, the other for closing the harpoon wounds in seals. It was only the former, which were usually a trifle longer and of slightly different shape, that he carried in the tool bag on his bow-case. Most of them were fashioned from caribou leg bone, and resembled rounded pencils

its owner streamed water over the mud to produce the thin coating of ice that reduced friction to a minimum.[1] By the end of April, however, it required protection from the growing warmth; the Eskimo, therefore, draped the sunward sides of their sleds with skins when in motion, and piled snow over the runners when at rest. In May even this protection failed them; gradually the mud melted and fell away. 493 823

The tops and bottoms of the runners were roughly parallel except in front, where the bottoms curved upward like a ski. Spaced about a foot apart were the flat crossbars, each lashed down at the ends with a rawhide thong that passed two or three times over the bar and a corresponding number of times through a hole in the runner below. To the front crossbar was attached also the toggle that bore the strain of the traces, a "new-moon-shaped" object of musk-ox horn, slotted in the middle and suspended between the runners by means of a belt of stout rawhide, preferably from the skin of the bearded seal (Figure 177); each end of the belt passed from the inside through a special hole in the runner below the front crossbar and then "button-holed" over the projecting end of that bar. There seemed to be no variation in the shape of this sled toggle, nor did I see any that were not made of musk-ox horn, which indicates that the animals were comparatively numerous a few years ago within the territory of the Copper Eskimo. 493 321 [284] [136]

Figure 177. Sled toggle, of musk-ox horn. IV.D.191. Approx. 3/4.

In the late spring and early summer, when a sled was difficult to drag over the numerous patches of bare ground, the Copper Eskimo commonly substituted the skin of a seal or polar bear, which glided with much less friction over soil and stones. In the autumn, again, before recovering the sleds they had abandoned late in the spring, they sometimes fashioned runners from skins, which they held in shape with fillings of willow branches and ice, and equipped with crossbars in the usual manner. On one occasion a native even used a block of ice for a sled; he merely rounded the bottom a little and grooved the front end for the attachment of his trace. 493 237 [823]

Two Eskimo who travelled from Backs River to our station in the winter of 1915-16 dragged sleds that were longer, narrower, and with lower runners than any I saw among the Copper Eskimo, but in all other respects seemed identical. One of them had a square sail of dehaired caribou hide mounted near the front to take advantage of the favourable wind; this, of course, was not an aboriginal invention, but reflected the influence of Europeans. [171] [177]

Sleds rarely carried any ornamentation. We observed only two instances, both of which consisted of a simple Y pattern painted in red and black on the sides of the runners where they began to turn upward. 493 531

Harness. Like other Eskimo previous to European contact, the natives around Coronation Gulf hitched their dogs to the sled fanwise, with individual 492

[1] See Reports of the Can. Arct. Exped., vol. XII, pp. 118, 119. The Copper Eskimo never [illegible] blood with the [illegible] or used blood alone, as was commonly done by their [illegible] farther to the east. [171]

492

Packs. Dog packs were flat sheets of sealskin, oval in outline, and perforated with holes along the two longer sides for cross lacings. Each end was filled like a bag, and the middle section left empty so that it would lie flat on the dog's back. The traces of the harness was drawn down over one side bag, under the animal's belly, and up over the other side bag; it was then pulled taut, and fastened to the end of the harness. At the end of summer dog packs were often cut up for boot soles, or used on the floors of the snow-huts.

483

Figure 179. Man's harness for hauling sled. IV.D.717. Approx. 1/10.

The average dog could carry only from 30 to 40 pounds, so that the Eskimo had to transport most of his belongings on his own back, inside his caribou-hide bedskin, by means of a shoulder strap and tump-line. The skin was laid flat on the ground and the articles piled in line on top of it, weight and bulk being distributed as evenly as possible between the two ends. The bundle was then rolled up and lashed with a long sealskin thong in two, or, in a large bundle, three places, the two ends and the middle. What remained of the thong became the shoulder strap; it passed from a loop held by a half hitch at one end of the bundle to a similar loop at the other. The tump-line, which was a band of sealskin or caribou skin with a thong tied to each end, fastened to the thong lashing of the bundle at any convenient points, but usually just behind the end loops.[1]

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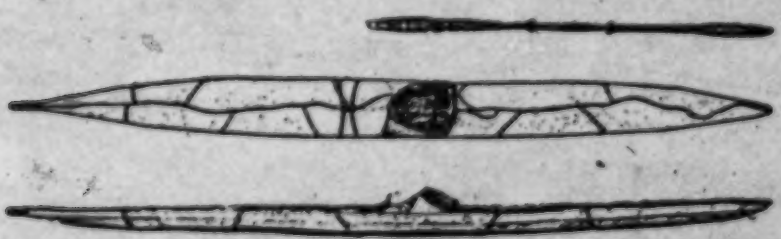

Figure 180. Kayak and paddle. IV.D.1057. Approx. 1/24.

Kayaks. The Copper Eskimo had never seen a umiak, and they used their kayaks (Figure 180) not for hunting seals, but only for ferrying across bays and rivers and for spearing caribou that had been driven into the water. Though a hunter generally made or bought a kayak at some time or other in his career,

[224]

[1] For illustration see Report of the Canadian Arctic Expedition, vol. XII, pt. A., Pl. V, p. 88B.

531 curved lines apart from circles unless they were conditioned by the curved surfaces of the objects on which they were engraved, as was the case with Figure 187a.[1]

532 A few bone carvings, all very crude, are illustrated in Figures 125, 126.
32 The only naturalistic forms are the bird figures attached to the needle-case
[524] in Figure 95. Among a child's toys was a figure of a loon carved from antler, and a tiny antler box with wooden bottom that represented the bird's nest (Figure 188).

Figure 189. Bone carving. IV.D.[illegible]. 1/1.

532 Noticing that children frequently outlined with their knives, in the hard
826 snow, figures of human beings or their clothing, I distributed a number of
12 notebooks and pencils and asked both adults and children to fill them with sketches. The new pastime amused them, and they quickly furnished me with about a hundred drawings of men and women in which the faces and hands received far less attention than the details of the tattooing and clothing. Those natives whom I watched began indifferently at the shoulder or the foot, and moved the pencil back and forth in every direction with no more dexterity than we expect from a 2 or 3 year-old child, and the results (Figure 189) were not
[825] dissimilar. Their drawings of animals such as the caribou, every part of whose anatomy was as familiar to them as their own, were even cruder; and how a map could indicate the geographical features of a country seemed beyond their comprehension. Evidently the sketching of scenes, like writing, was a totally new concept to them; yet I cannot believe that they lack talent, or that the second or third generation from today will not show as much proficiency in drawing as other Eskimo.

KNOTS

284 The Copper Eskimo made use of several different kinds of knots, all, except perhaps one, familiar enough to Europeans; but whether they had special names for them I did not discover. To finish off the end of a braid of sinew, or knot the end of a line, they used the common thumb knot; the "figure of eight" appeared to be unknown. Two lines were generally joined by the reef knot, but if one had a loop at the end a single sheet bend was employed. The loop itself might be made in two ways, by cutting a small slit in the end of the sealskin thong and passing the other end through it, thereby producing a kind of slip-

[1] A pair of men's outer trousers, collected by Captain Collinson at Cambridge Bay in [illegible] and now in the British Museum, is decorated with a "[illegible]" of chevrons, the only instance I have seen of this design.

[TEXT CONTINUED ON PAGE 148]

284 [992] knot; or by a modification of the bowline. The sheep-shank was frequently used to shorten a dog's trace, so that the animal was brought nearer to the sled and to the stick of his master.

An unfinished thumb knot, where the end was not passed through the loop but remained outside so that the knot could be easily untied, was the usual knot for making one end of a line fast to a stone or a post. Just as our soldiers often use this knot for tying horses to a ground line, so the Eskimo employed it for tying their dogs to boulders. I never saw amongst them the other knot we often employ for the same purpose, the clove hitch, or its development, the clove-hitch bend. The ordinary hitch, however, came in for a multitude of uses, especially while packing in summer. For instance, the household gear was [356] rolled up in the sleeping skins and made fast by an ingenious combination of loops and half hitches, and the end of the line that remained over became the carrying strap that passed around the shoulders.